

BAZE PODATKOV

UČNI NAČRT PREDMETA/COURSE SYLLABUS

Predmet:	Baze podatkov
Course title:	Data Bases
Članica nosilka/UL Member:	UL FU

Študijski programi in stopnja	Študijska smer	Letnik	Semestri	Izbirnost
Management v upravi, druga stopnja, magistrski	Upravna informatika (smer)	2. letnik	Celoletni	izbirni

Univerzitetna koda predmeta/University course code:	0069398
Koda učne enote na članici/UL Member course code:	583

Predavanja /Lectures	Seminar /Seminar	Vaje /Tutorials	Klinične vaje /Clinical tutorials	Druge oblike študija /Other forms of study	Samostojno delo /Individual student work	ECTS
21	11			118	60	7

Nosilec predmeta/Lecturer: Mitja Dečman

Vrsta predmeta/Course type: Strokovno izbirni/Professional elective

Jeziki/Languages:	Predavanja/Lectures:	Angleščina, Slovenščina
	Vaje/Tutorial:	Angleščina, Slovenščina

Pogoji za vključitev v delo oz. za opravljanje študijskih obveznosti:	Prerequisites:
Ni.	No prerequisites.

Vsebina:

1. Osnove baze podatkov.
2. Razvoj podatkovnih baz.
3. Podatkovni modeli.
4. Teorija relacijskih modelov.
5. Sestavine modela podatkov. Strukture, omejitve in dejavnosti, povezane z modelom podatkov.
6. Modeli objektov in odnosov. Relacijski model. Objektni model. Objektno-relacijski model.
7. Opredelitev tabele in poizvedbe.
8. Funkcije upravljanja z bazo podatkov. Pregled baze podatkov.
9. SQL ODL, OQL, razširitve objekt v SQL9
10. Semi-strukturalni modeli.
11. XML in njegov podatkovni model, XQuery.

Content (Syllabus outline):

1. Fundamentals of Database.
2. Evolution of database systems.
3. Data models.
4. The theory of relational models.
5. The components of the data model. Structure, constraints, and operations related to the component data model.
6. Models of objects and relationships. The relational model. Object model. Object - relational model.
7. Defining tables and queries.
8. Functions of database management. Reviewing the database.
9. SQL ODL, OQL, object extensions to SQL9
10. Semi-structural model.
11. XML and its data model, XQuery.

Temeljna literatura in viri/Readings:

- Kroenke, D., Auer, D., Database Concepts. Prentice Hall, Boston, ZDA, 2010. (izbrana poglavja/selected chapters)
- Date, C.J., An Introduction to Database Systems, Addison-Wesley, 2000. (izbrana poglavja/selected chapters)
- Ramakrishnan, R., J. Gehrke, Database Management Systems, McGraw Hill, 1999. (izbrana poglavja/selected chapters)
- Garcia-Molina, H., J. Ullman, J. Widom, Database Systems - The Complete Book, Prentice Hall, 2002. (izbrana poglavja/selected chapters)

Cilji in kompetence:

Cilji:

- Razviti znanja in sposobnosti za načrtovanje, razvoj in uporabo baz podatkov v organizacijah javne uprave.
- Razviti sposobnosti kritične ocene možnih pristopov na tem področju.
- Pridobiti znanja o aktivnostih in nalogah upravljanja podatkov.

Kompetence:

- Zmožnost samostojnega reševanja problemov snovanja, razvoja, gradnje in vzdrževanja baz podatkov na področju uprave in širše;
- Sposobnost kreativnega sodelovanja v projektnih skupinah pri razvoju informacijskih sistemov, kjer so baze podatkov potreben informacijski vir;
- Sposobnost komuniciranja z uporabniki baz podatkov v upravi in širše ter posredovanja lastnega znanja;
- Zmožnost kritične presoje in analize vplivov in posledic uporabe baz podatkov v upravi in širše na mesto in integriteto državljanov in družbe.

Objectives and competences:

Objectives:

- Develop knowledge and skills in design, development and use of databases in organizations of public administration.
- Develop the ability to critically evaluate alternative approaches in this area.
- Acquiring knowledge of database systems and database management.

Competences:

- Ability of solving problems of design, development, construction and maintenance of databases in the field of administration and beyond;
- Capability of creative collaboration in project teams in the development of information systems, where the base data needed source of information;
- Ability to communicate with users of databases in general and administration and communications and their own knowledge;
- Ability to critically assess and analyse the impacts and consequences of the use of databases in government and the wider city and the integrity of individuals and society.

Predvideni študijski rezultati:

- Študent je sposoben samostojnega in kompleksnega študija podatkov in izbiranja ustreznih rešitev za uspešno obvladovanje le teh.
- Študent razume izzive na področju modeliranja podatkov in je sposoben načrtovati različne modele in jih implementirati v različnih orodjih.
- Študent zna uporabljati pridobljeno znanje v svojem delovnem okolju oz. praksi na področju načrtovanja, implementacije in uporabe baz podatkov.

Intended learning outcomes:

- Student can independently perform independent and complex study of data and the selection process of appropriate tools for their management.
- Student understands the challenges of data modelling and is capable of planning and implementing different models with different tools.
- Student can use the gained knowledge in the work environment or practice for planning, implementation and use of data bases.

Metode poučevanja in učenja:**Learning and teaching methods:**

<ol style="list-style-type: none"> 1. predavanja 2. analiza primerov iz prakse 3. gostovanja strokovnjakov iz prakse 4. znanstveno-raziskovalna seminarska naloga 5. skupinska predstavitev 6. spremljanje dogodkov preko elektronske klepetalnice 	<ol style="list-style-type: none"> 1. lectures 2. case studies 3. hosting of practitioners 4. scientific research, seminar paper 5. (group) presentation 6. following the events via chat room
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Načini ocenjevanja:**Delež/Weight****Assessment:**

Seminarska naloga, študija primera, raziskovalni projekt – javna predstavitev.	45,00 %	Seminar paper, case study, research project – public presentation.
Ustni ali pisni izpit	55,00 %	Oral or written exam.

Reference nosilca/Lecturer's references:

<ul style="list-style-type: none"> • DEČMAN, Mitja. Understanding technology acceptance of government information systems from employees' perspective. <i>International journal of electronic government research</i>, ISSN 1548-3894. [Spletna izd.], 2015, vol. 11, issue 4, str. 69-88, ilustr. • DEČMAN, Mitja. The role of government portals : an evaluation of the new Slovenian government portal. V: DEČMAN, Mitja (ur.), JUKIČ, Tina (ur.). <i>Proceedings of the 16th European Conference on e-Government, Ljubljana, 16.-17. June 2016 : ECEG 2016</i>. Reading: Academic Conferences and Publishing International, 2016, str. 45-53, ilustr. • DEČMAN, Mitja. Modeling the acceptance of e-learning in mandatory environments of higher education: the influence of previous education and gender. <i>Computers in human behavior</i>, ISSN 0747-5632. [Print ed.], Aug. 2015, vol. 49, str. [272]-281 • DEČMAN, Mitja, VINTAR, Mirko. A possible solution for digital preservation of e-government: a centralized repository within a cloud computing framework. <i>Aslib proceedings</i>, ISSN 0001-253X, 2013, vol. 65, no. 4, str. 406-424, ilustr., doi: 10.1108/AP-05-2012-0049. • DEČMAN, Mitja, KLUN, Maja. Efficiency and usability of information systems: e-recovery system in Slovenia. V: ADAMS, Carl (ur.). <i>Proceedings of the 15th European Conference on eGovernment</i>, University of Portsmouth, UK, 18-19 June 2015. Reading: Academic Conferences and Publishing International Limited, 2015, str. 79-86, ilustr. • KOVAČ, Polonca, DEČMAN, Mitja. Implementation and change of processual administrative legislation through an innovative Web 2.0 solution. <i>Transylvanian review of administrative sciences</i>, 2009, no. 28 E, str. 65-86, ilustr.
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